

Fig. 1

ACCEPTED MANUSCRIPT

29 Kvolt

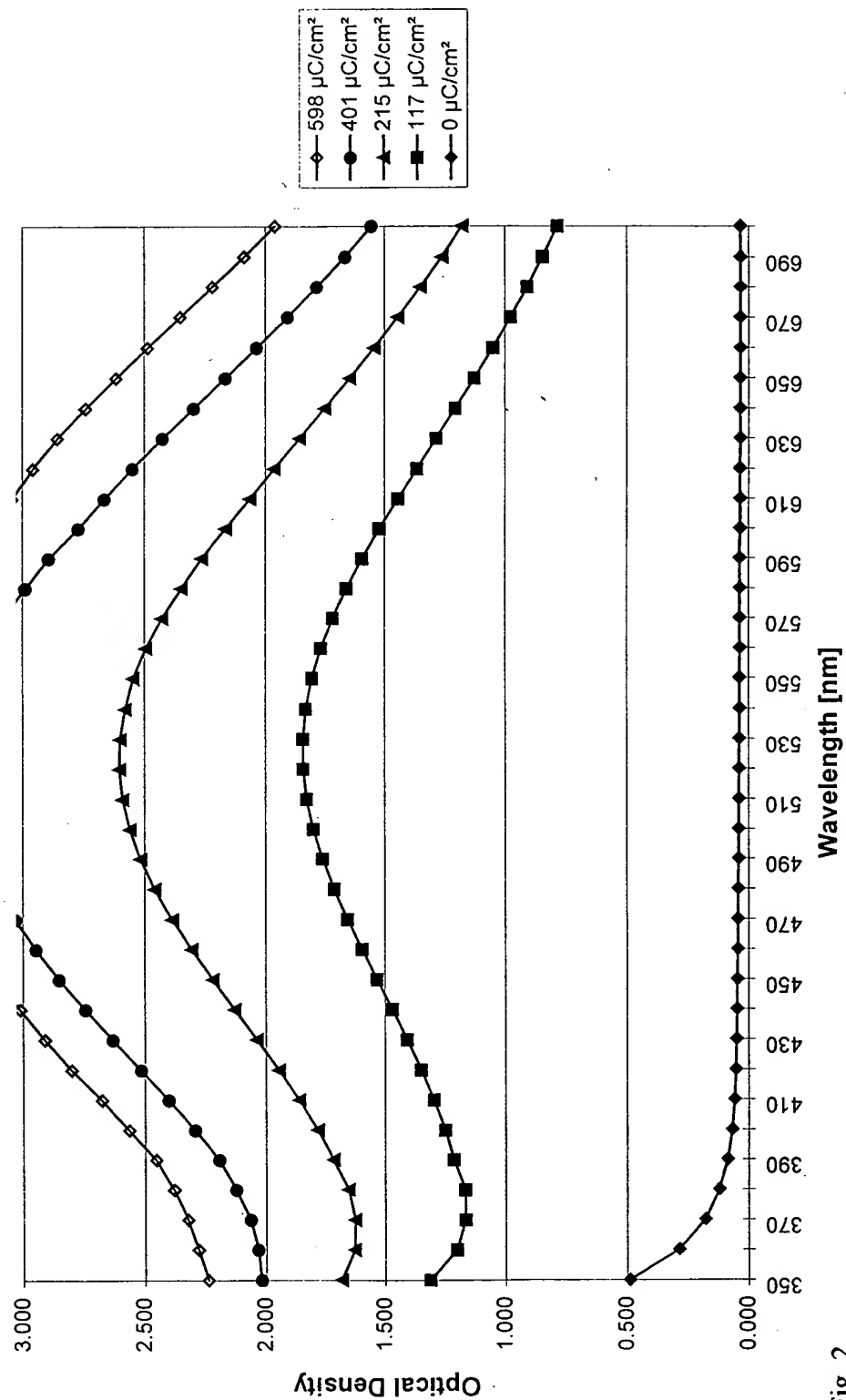


Fig. 2

Accepted Article

25 Kvolt

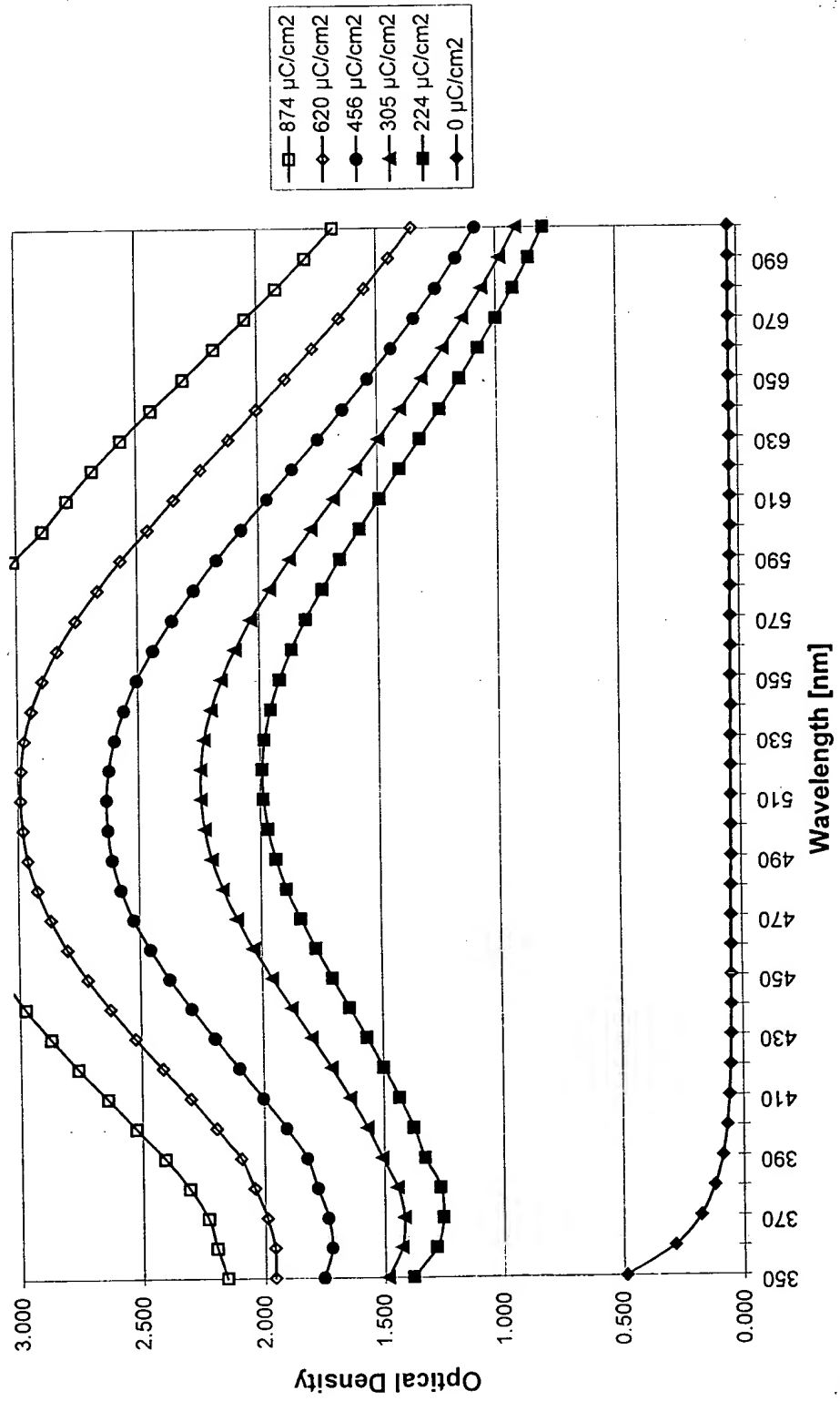


Fig. 3

20 Kvolt

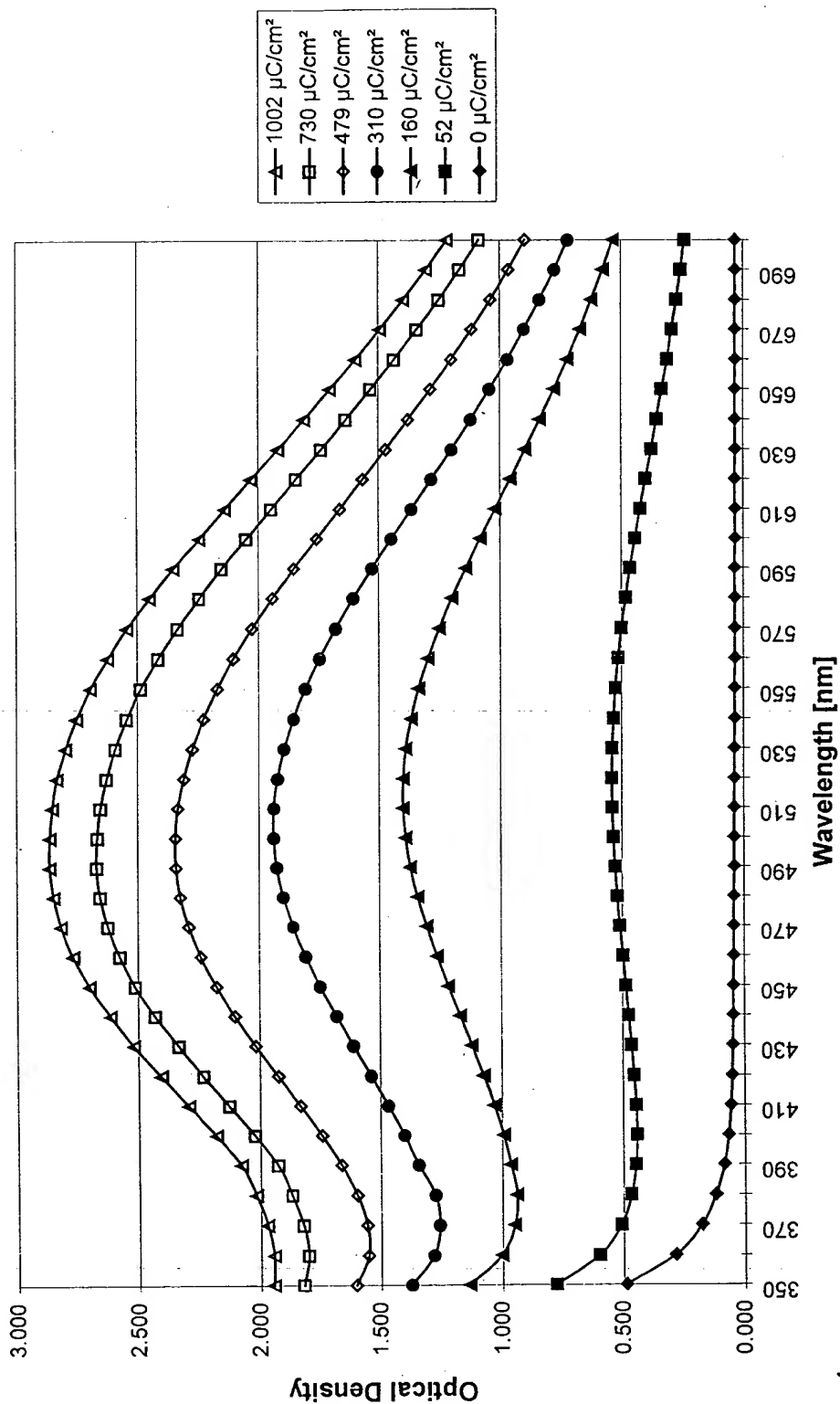


Fig. 4

15 Kvolt

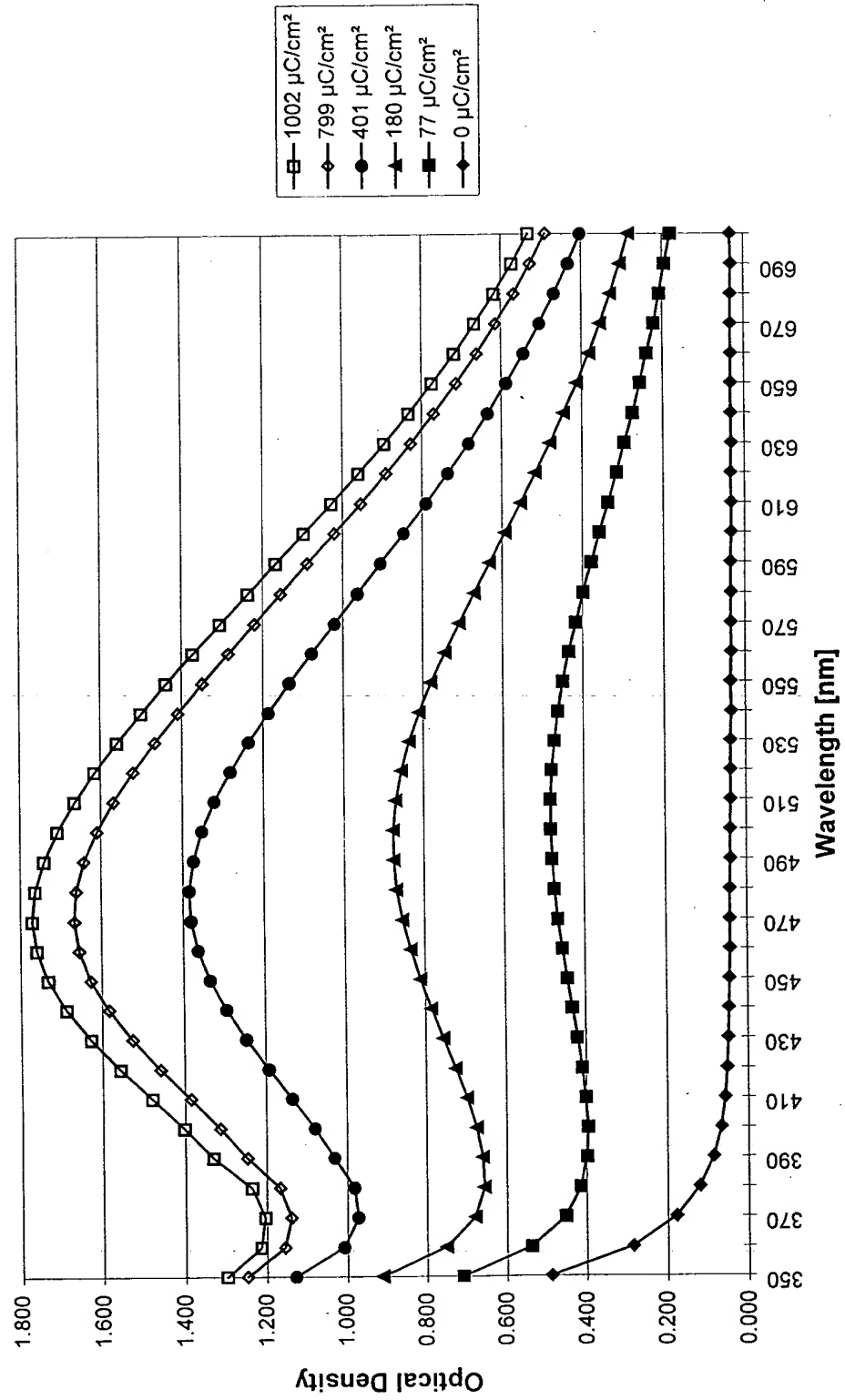


Fig. 5

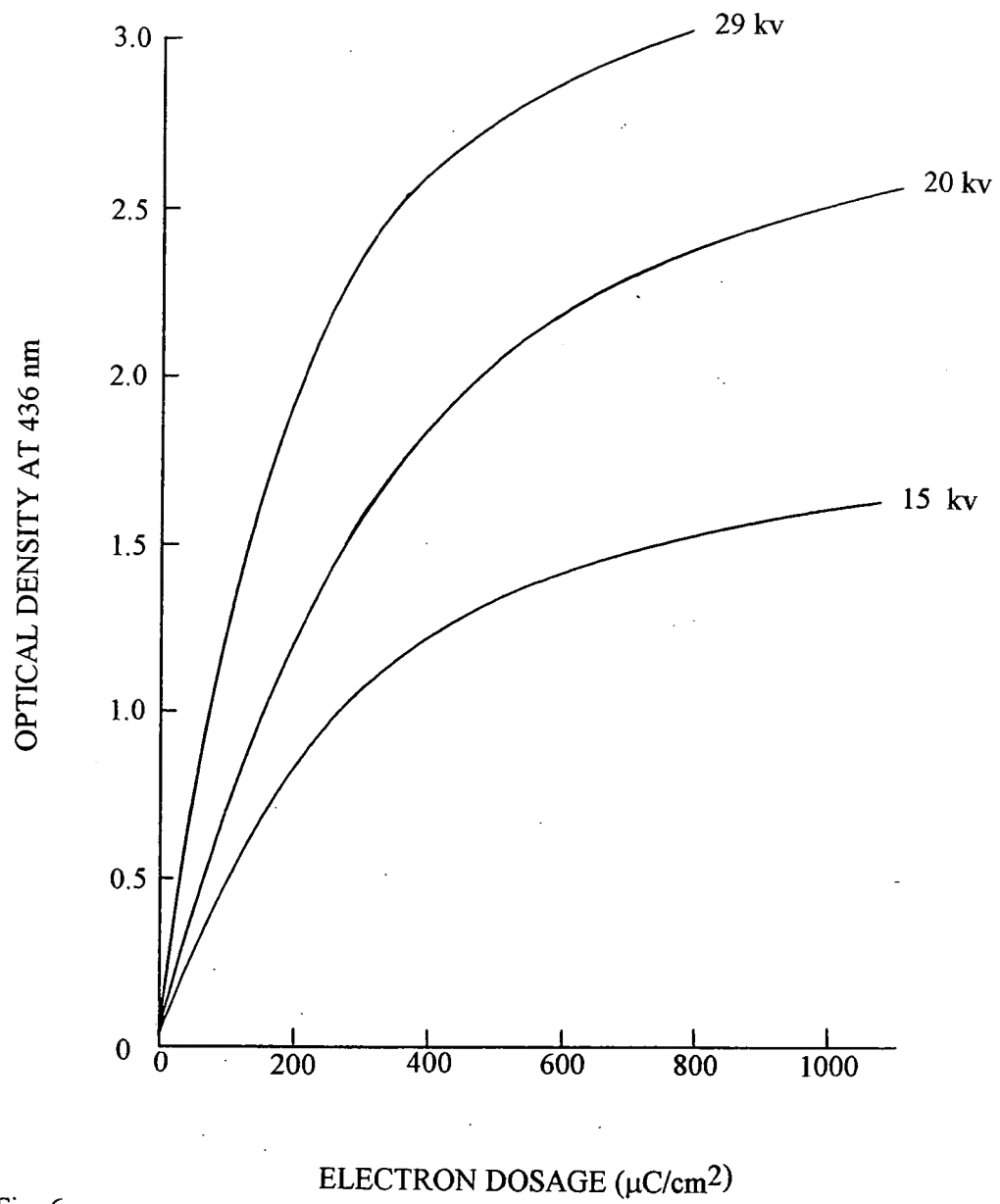


Fig. 6

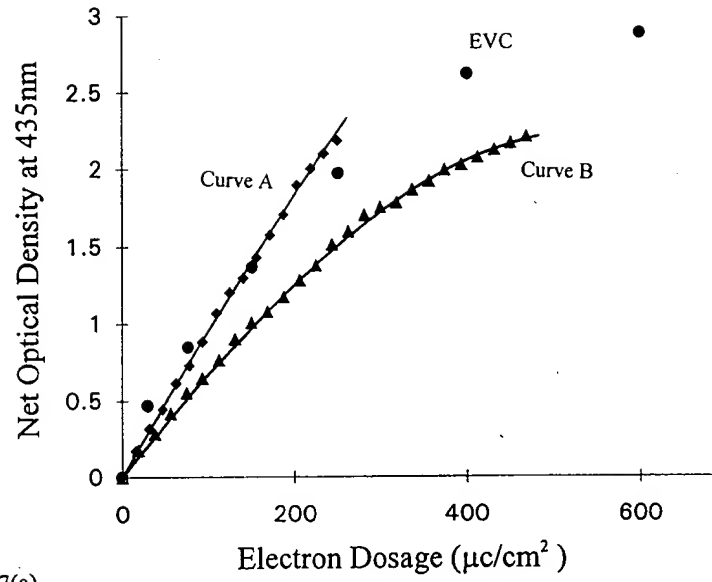


Fig. 7(a)

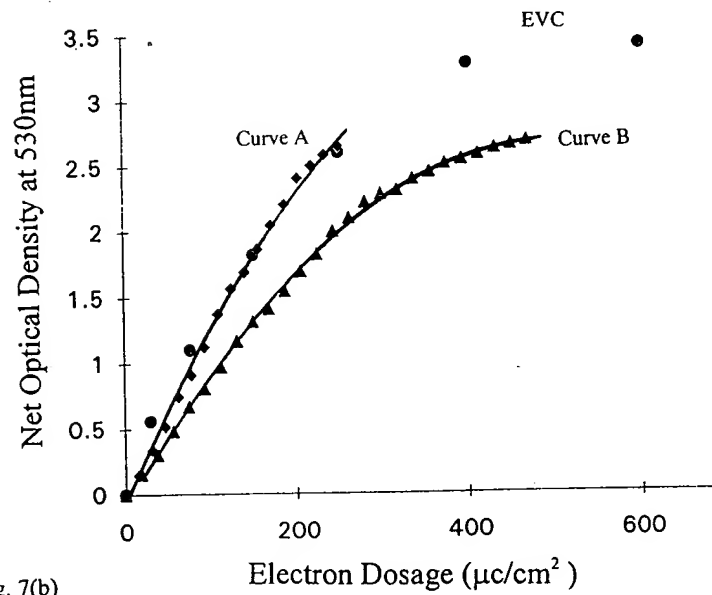


Fig. 7(b)

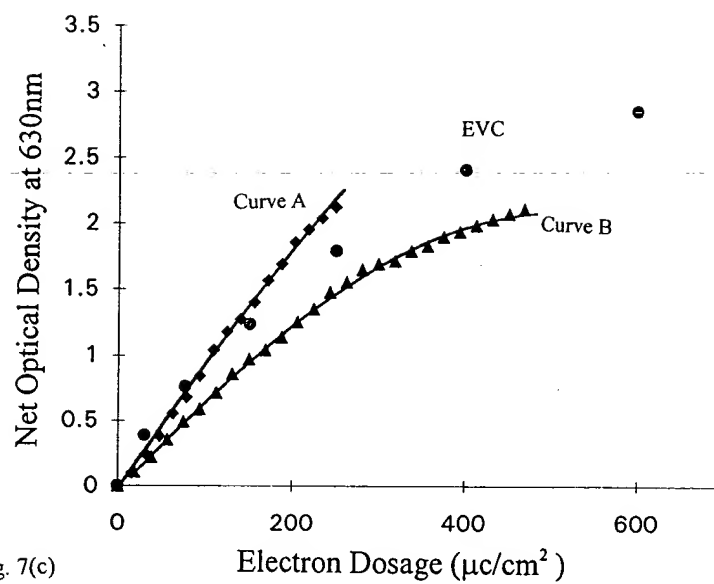


Fig. 7(c)

30kv, 0.4micron, 250na, 365nm

$$y = 19708x^6 - 17787x^5 + 6181.2x^4 - 1063.8x^3 + 85.688x^2 + 3.3806x + 0.0988$$
$$R^2 = 0.9995$$

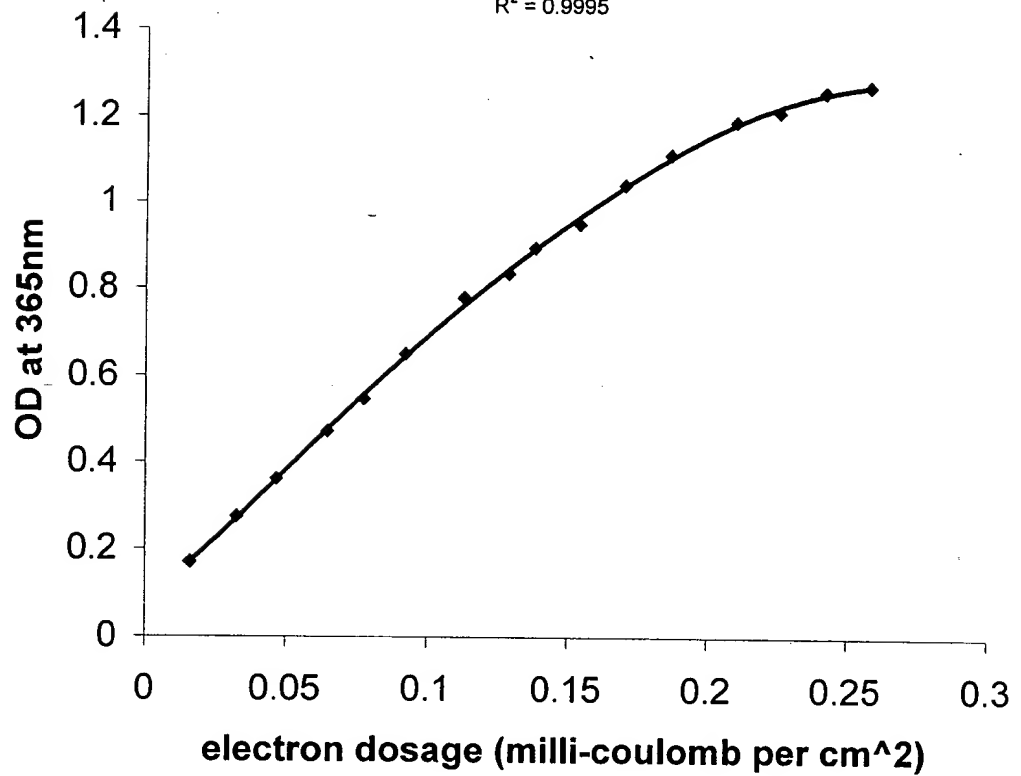


Fig. 7 (d)

30kv, 0.4micron, 250na, 435nm

$$y = -15440x^6 + 12082x^5 - 3761.5x^4 + 555.15x^3 - 40.414x^2 + 10.637x$$
$$R^2 = 0.9999$$

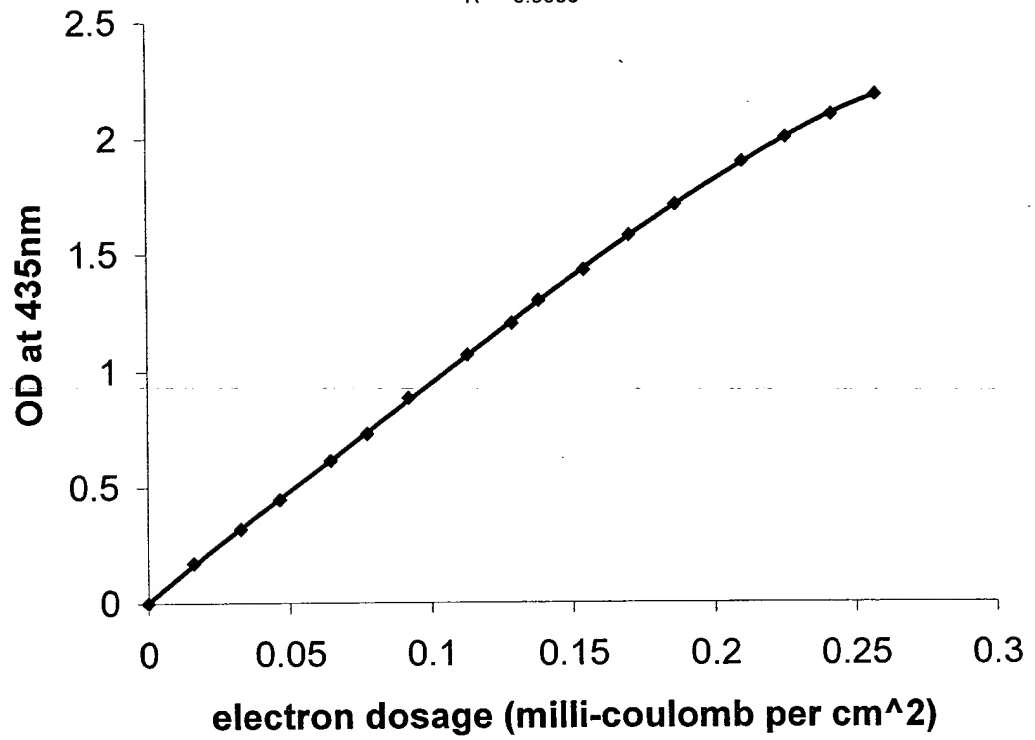


Fig. 7 (e)

30kv, 0.4micron, 250na, 530nm

$$y = 46062x^6 - 38146x^5 + 12229x^4 - 2013.9x^3 + 173.69x^2 + 5.8097x + 0.0174$$
$$R^2 = 1$$

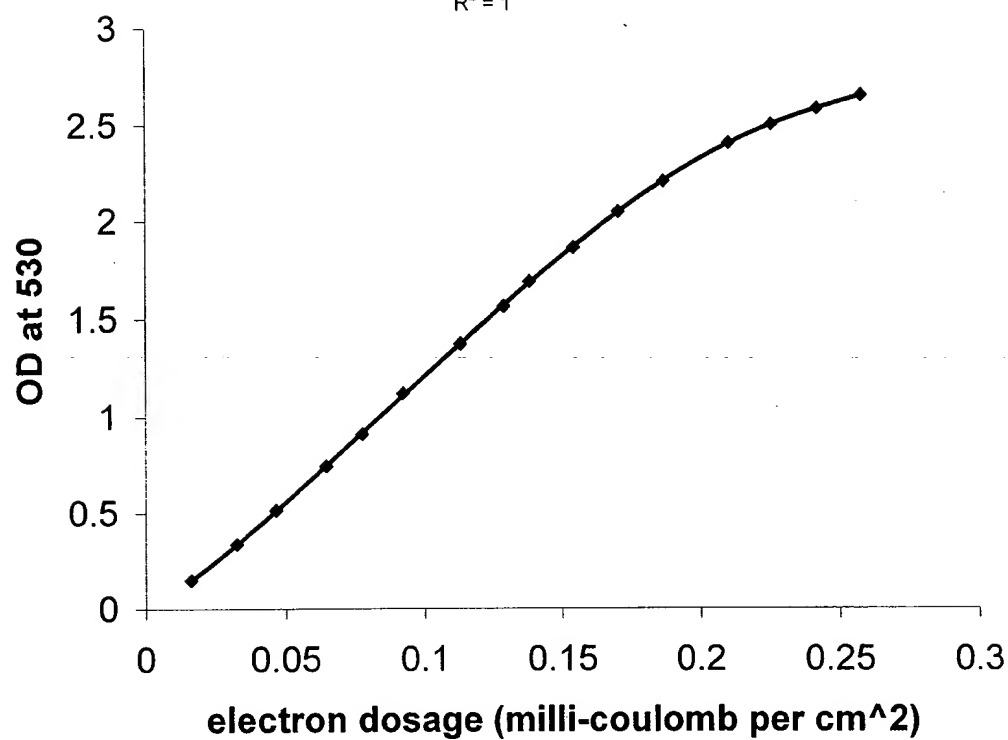


Fig. 7 (f)

30kv, 0.4micron, 250na, 630nm

$$y = 51961x^6 - 43905x^5 + 14402x^4 - 2361.2x^3 + 197.27x^2 + 2.2436x + 0.0222$$

$$R^2 = 0.9999$$

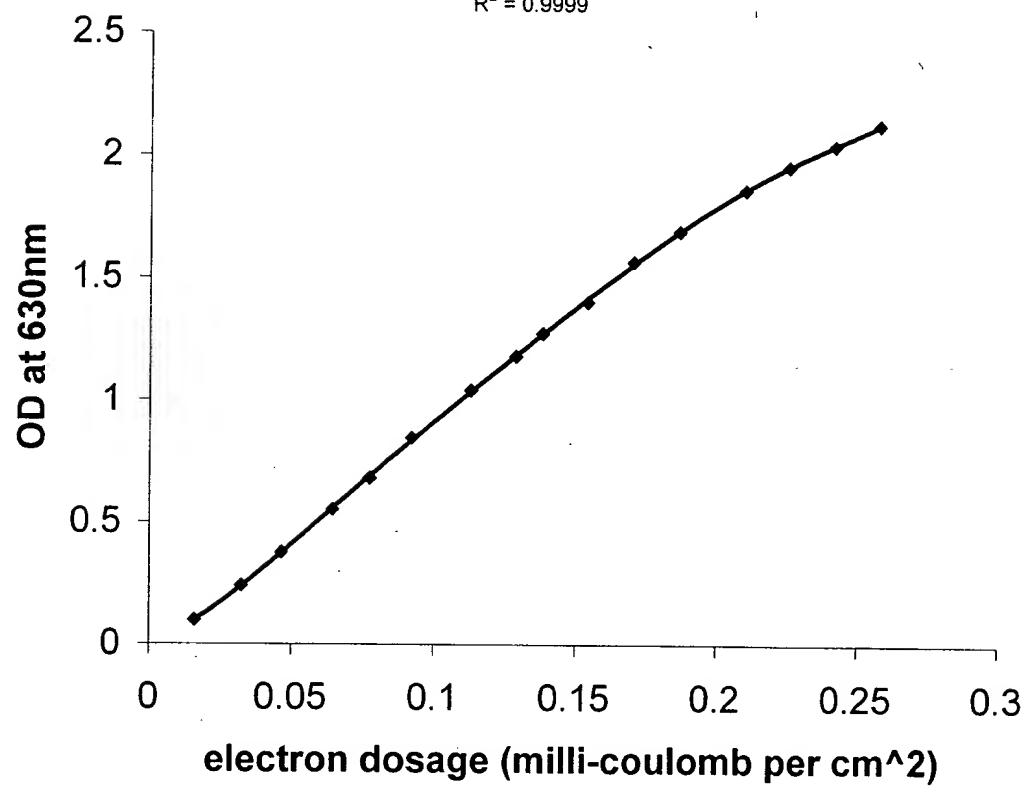


Fig. 7 (g)

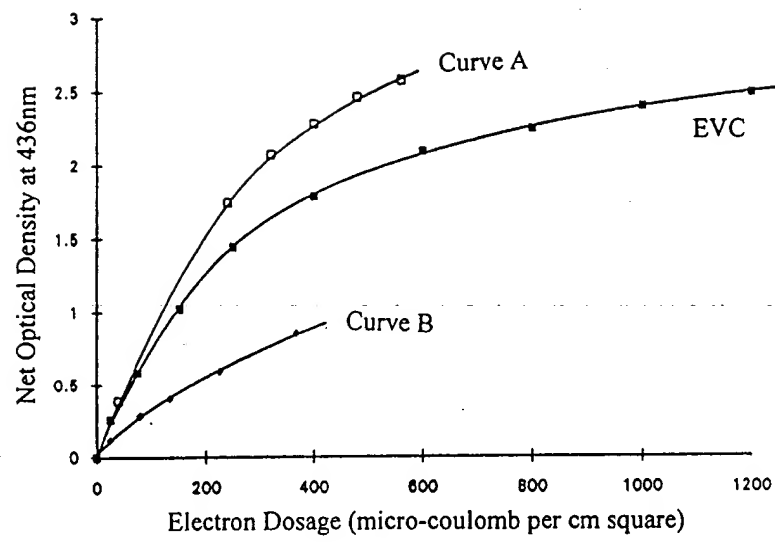


Fig. 8

2025-04-26 14:26:00

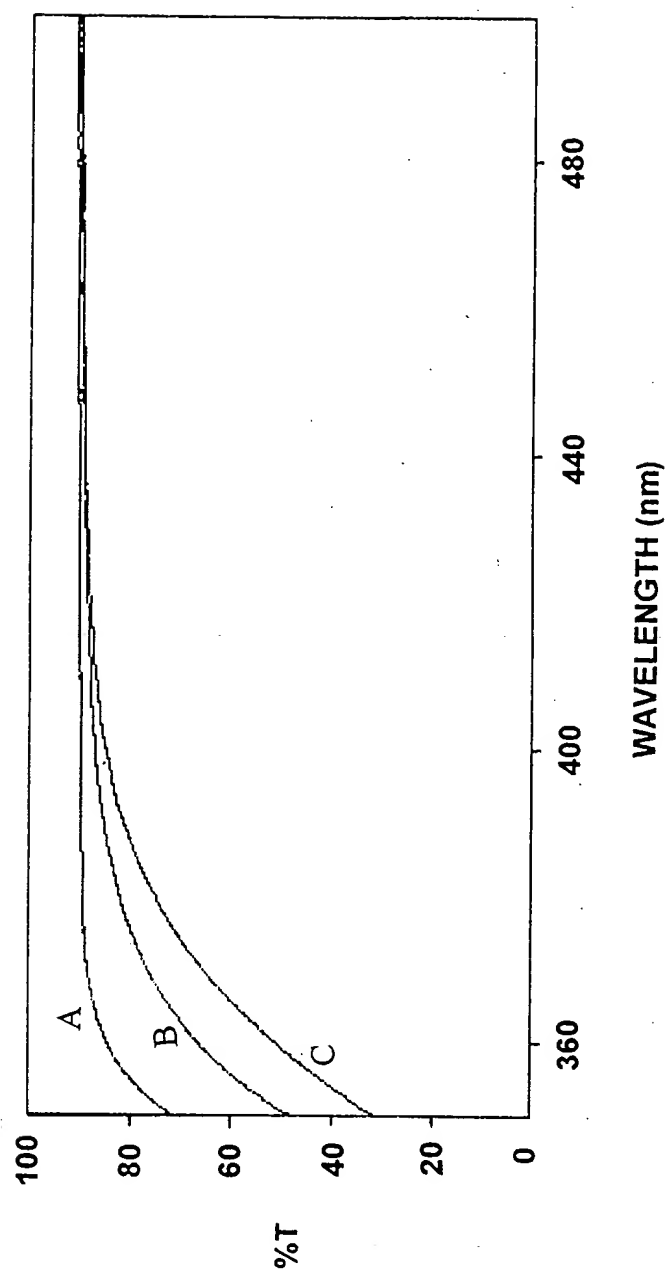


Fig. 9



Fig. 10

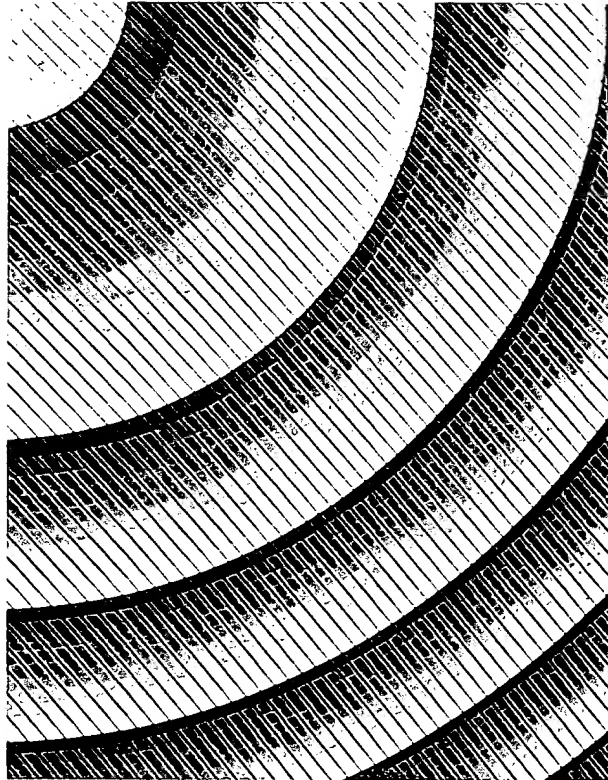
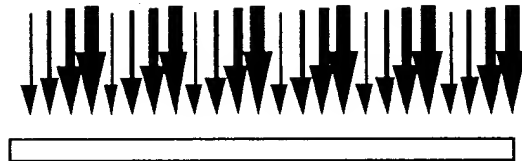


Fig. 11



a.) HEBS-Glass mask material exposed in e-beam writer



b.) Gray-Level mask generated in HEBS-Glass



c.) Photoresist exposure in optical lithography tool



d.) Resist surface profile after development



e.) Surface profile in substrate material after CAIBE transfer step

Fig. 12

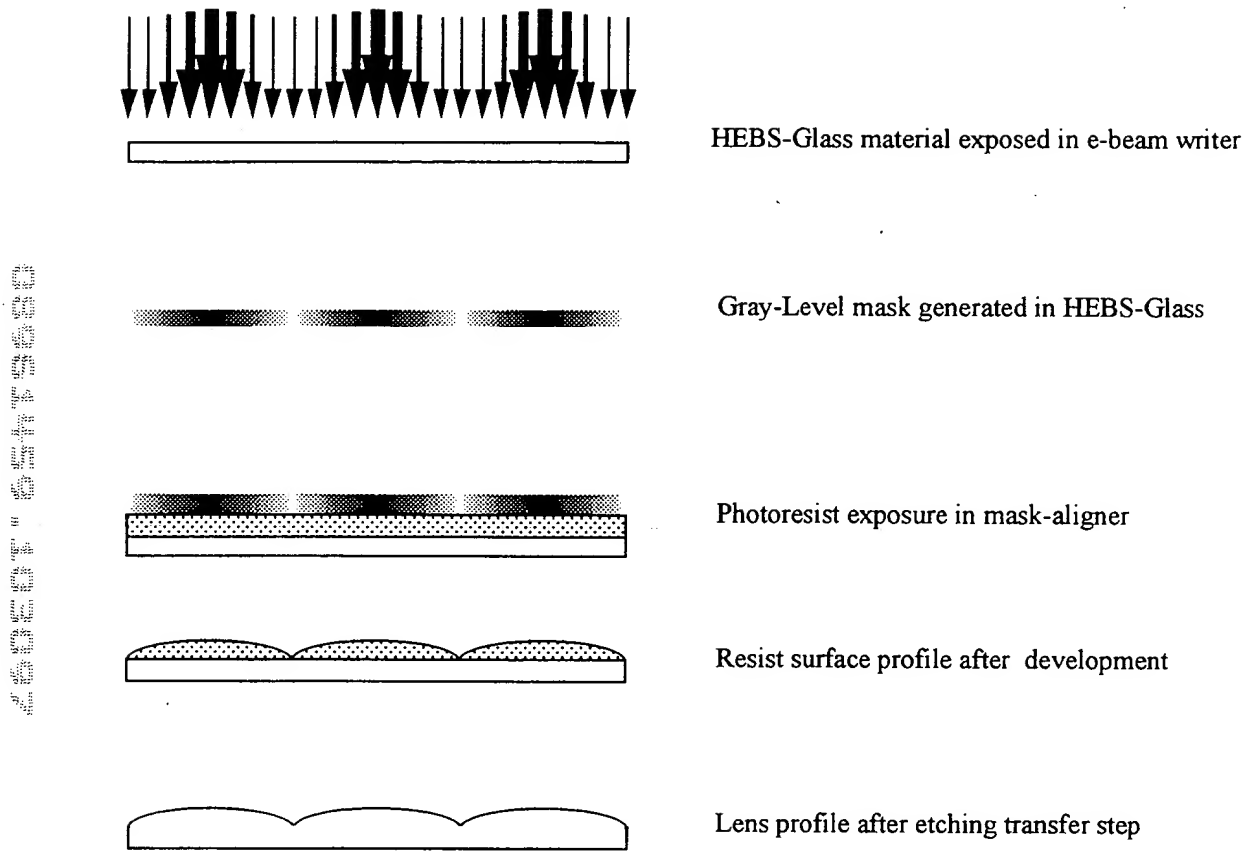


Fig. 13

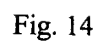


Fig. 14

2025 RELEASE UNDER E.O. 14176

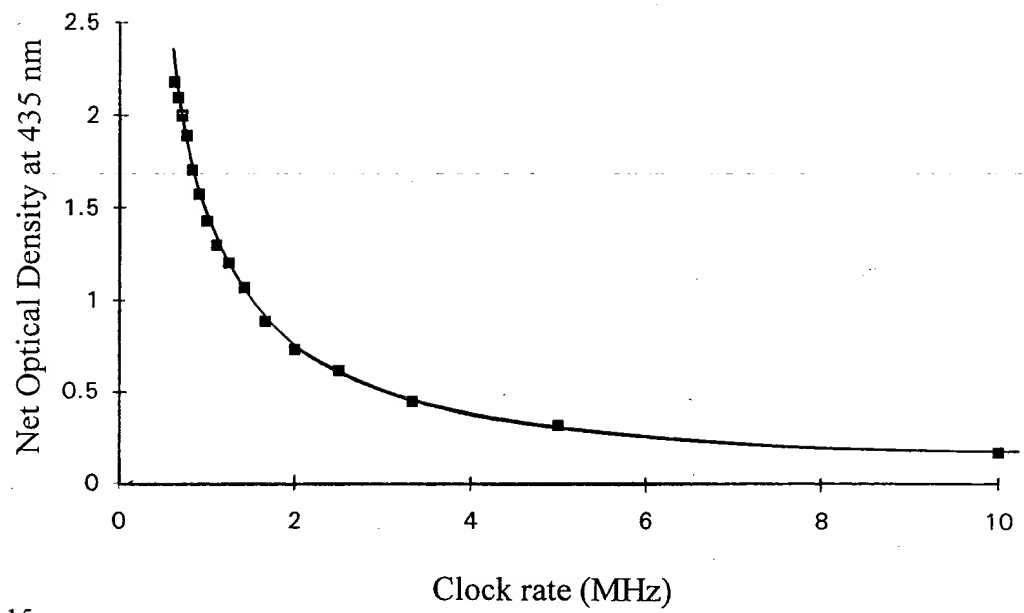


Fig. 15

Net Optical Density at 435 nm

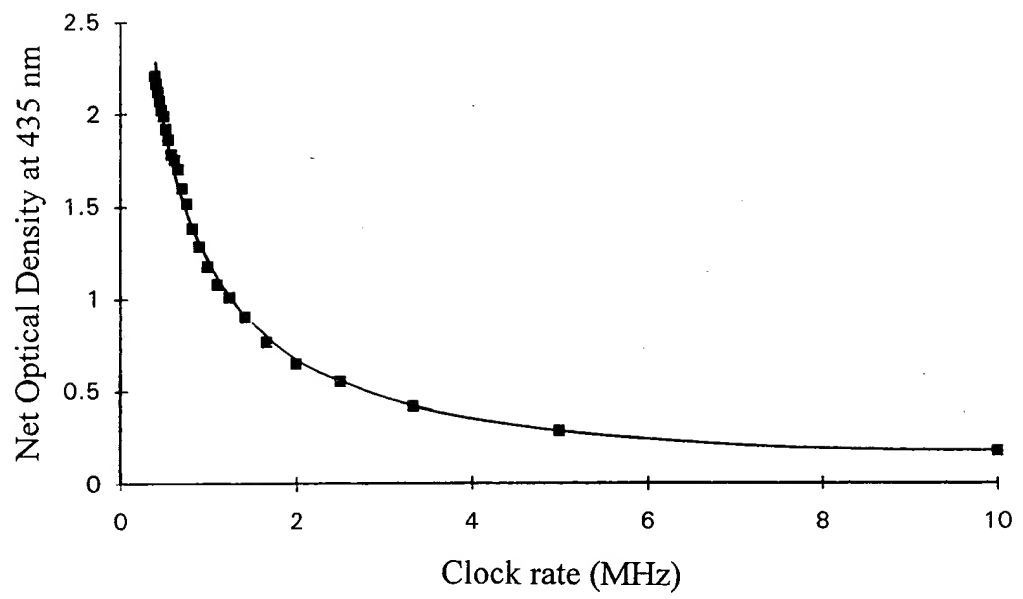


Fig. 16

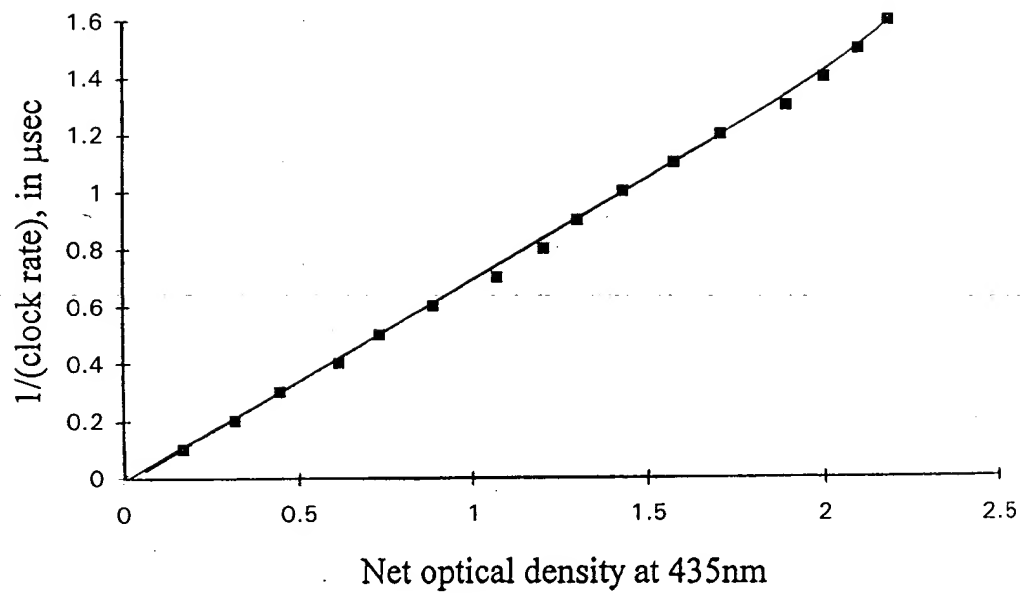


Fig. 17

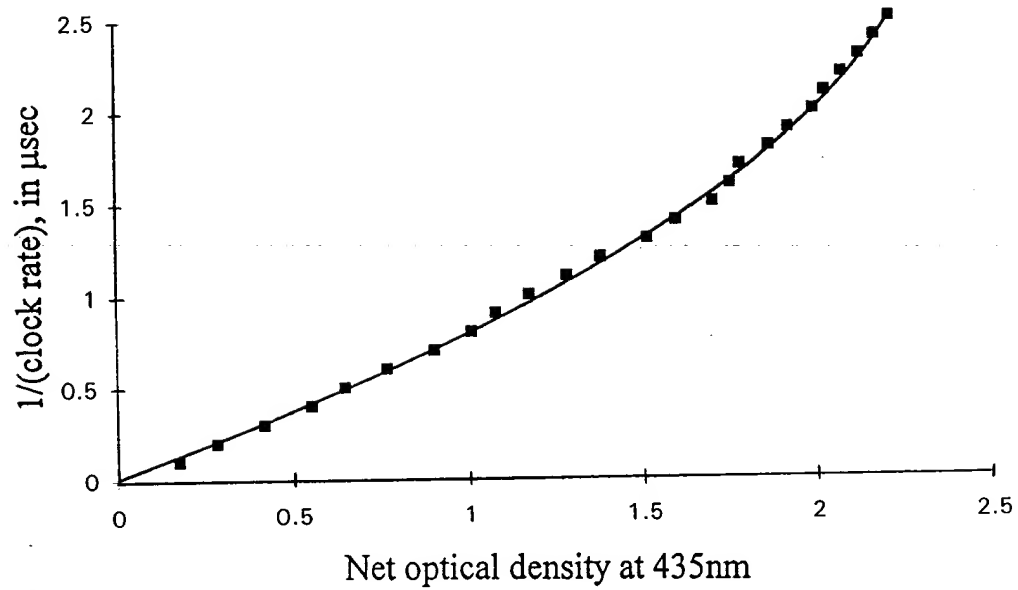


Fig. 18

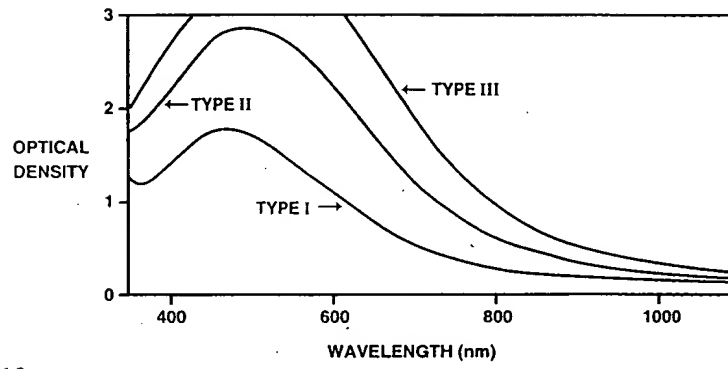


Fig.19

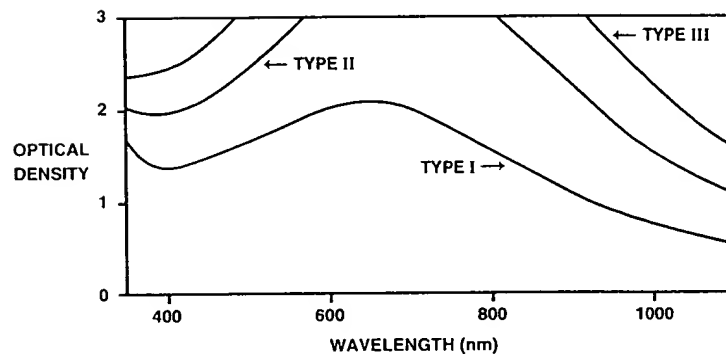


Fig.20